DYES FOR LEATHER

NATIONAL ANILINE & CHEMICAL CO.
INCORPORATED
NEW YORK

Digitized by the Internet Archive
in 2025 with funding from
Getty Research Institute

https://archive.org/details/dyesforleathersh00nati

Executive Offices of the

NATIONAL ANILINE & CHEMICAL COMPANY, INC.

21 BURLING SLIP, NEW YORK

DYES FOR LEATHER

Showing Colors which are most suitable to this material and demanded by the Trade

CONS.
SPECIAL
TS
967
N27
19--

National Aniline & Chemical Company

INCORPORATED

EXECUTIVE OFFICES:

21 BURLING SLIP, NEW YORK

BRANCH OFFICES:

AKRON
711 People's Savings & Trust Bldg.

PROVIDENCE
28 N. Main Street

CHICAGO
111 West Washington St.

HARTFORD
209 State Street

BOSTON
113 High Street

CHARLOTTE
236 W. First Street

PHILADELPHIA
653 N. Broad Street

SAN FRANCISCO
120 Second Street

NATIONAL ANILINE & CHEMICAL CO., LTD.

MONTREAL, 8 Place Youville

TORONTO, 14 Front St., East

Plants:

BUFFALO

BROOKLYN

MARCUS HOOK

THE GETTY CENTER

"NATIONAL" SERVICE

The National Aniline & Chemical Company, Inc., is convinced that the essence of all good-will is *intelligent service.*

It confidently believes that an earnest effort to assist those who use dyestuffs will result in improvements beneficial to customers, to the public and to itself.

To confirm this belief, it maintains laboratories equipped with every modern facility and an experienced sales and technical staff which are placed, without obligation, at the disposal of its customers in all parts of the world; thereby rendering a personal service that receives international recognition.

The matching of shades on any material, a co-operative effort in the solving of problems, and the supplying of special technical data on the application of dyestuffs, are important features of "National" Service.

Shade cards, containing colors produced under actual dyeing conditions of the trades and illustrating the extensive use of "National" Dyes, are prepared regularly and distributed to anyone interested in dyestuffs.

The accomplishment of this policy characterizes the principle that stands behind "National" Service.

DIRECTIONS

Samples 1 to 35 inclusive, show our products as self-colors dyed on sumac-tanned sheepskin skivers in the paddle wheel, except where another method is especially mentioned. The amounts of dyestuffs and chemicals given are calculated for use in the paddle wheel with one dozen sumac-tanned sheepskin skivers measuring 120 square feet per dozen.

In connection with the brush-dyed samples (colors 15, 34, 35) the strength of the brushing solution is given in ounces of dyestuff for a certain number of gallons of water.

Samples 35 to 54 inclusive, show fashionable shades dyed on chrome-tanned calfskin in the drum. The amounts of dyestuffs and chemicals given are calculated for use in the drums in connection with 100 pounds, shaved-weight, of chrome-tanned calfskins.

A—DISSOLVING OF DYESTUFF: The dissolving of dyestuff is best done in enameled vessels (agateware) or in earthenware. Wooden vessels are not recommended as they absorb a certain amount of dyestuff and cannot be cleaned satisfactorily.

Basic Dyes are best dissolved in condensed water or rain water. Where only well or river water is available—either of which is more or less hard—the addition of acetic acid is recommended. The basic dyestuff is first made into a thin paste with a little cold water and the requisite amount of acetic acid (generally one-half the amount of Acetic Acid 28% as of dyestuff used is sufficient). This paste is then poured into the necessary amount of hot water (180 to 190°F.) and stirred until completely dissolved. Actual boiling with live steam should be avoided.

Acid Dyes are best dissolved by boiling with the requisite amount of water. No acid should be added while dissolving the color or to the stock solution.

B—PREPARATORY TREATMENT BEFORE DYEING FOR VEGETABLE-TANNED SKINS: In order to obtain satisfactory results it is necessary to prepare properly the skins previous to dyeing. They are thoroughly soaked and washed in lukewarm water to remove all excess of tanning that might cause difficulty during the dyeing operation. If the tannage is dark it is advisable to give a slight re-tannage, after the washing, with light-colored tannins like Sumac. This is given in the drum or paddle wheel and usually requires half an hour. After the re-tannage has been taken up by

the leather it is advisable to fix the tannin with Tartar Emetic or Titanium Potassium Oxalate (½ to 1 oz. per dozen skins). These salts are dissolved in water and added to the drum or paddle wheel after the re-tannage has been taken up, running the skins 10 to 15 minutes longer. The skins are then rinsed and are ready for dyeing.

C—DYEING OF VEGETABLE-TANNED LEATHER: There are four principal methods of dyeing:

1st—Brush dyeing
2nd—Tray dyeing
3rd—Drum dyeing
4th—Paddle dyeing

Brush dyeing is used mostly for large leather, that is, heavy cowhides used in bags, harness and upholstery; also for light leather in cases where an unstained flesh side is desired. A dyestuff solution of proper strength is brushed on the dry leather with a medium hard bristle brush. According to the desired depth of shade, one or more coats of the brushing solution are applied. The leather is then hung up to dry.

Tray dyeing is used on light skins only where an unstained or only slightly stained flesh side is desired. The moist skins are either folded singly, lengthwise, or paired together flesh side against flesh side, and dipped for five or ten minutes in the warm dyestuff solution in the tray, until the desired depth of shade is obtained. Then the leather is hung up to dry. Owing to the large amount of labor required for so small an output, this method is not used very largely now, and we therefore do not show any dyeings produced in this way.

Drum dyeing is the method most generally used. Light side leather, kips, horsehide, calf, sheep and goat skins are all dyed in this manner. The drum is loaded with the leather and sufficient warm water to allow easy moving of the leather while the drum is running. The temperature of the bath is 100°F., for vegetable and 120 to 135°F., for chrome tannages. Then the drum is set in motion and the necessary amount of dyestuff solution is added through the gudgeon while the drum is running. The dyeing requires from 30 to 45 minutes. Other ingredients or chemicals such as acids, metallic salts, etc., that may be necessary for the proper development of the dyeing, are also added in solution through the gudgeon of the drum while it is in motion.

Paddle dyeing is mostly used for the dyeing of very light leathers, such as skivers or light sheep skins that might be torn by the violent pounding in the drum. The paddle wheel is filled with warm water, the temperature of which is 100°F.; the wheel set in motion, and the damp skins thrown in. The dyestuff solution is then added in portions by pouring it slowly out of a dipper and along side the wall of the paddle wheel. The dyeing requires about one-half hour. Should other chemicals (acid, mineral salts) be needed during the

dyeing process, they should be added in solution while the paddle-wheel is running. Basic Dyes are dyed without additional chemicals. Acid Dyes require the addition of about one-half the amount of Acetic Acid as of dyestuff used, or one-quarter the amount of Sulphuric Acid. National Metanil Yellow should not be dyed with Sulphuric Acid but only with weak acids such as Acetic.

When the dyeing process is completed the skins are rinsed in water, set out, oiled off, if necessary, and dried on frames or on hooks.

D—DYEING OF CHROME-TANNED LEATHERS: Chrome-tanned leathers are dyed in the drum. The treatment preparatory to dyeing is as follows:

After shaving, the weight of the leather is determined. This weight serves as the basis for calculating the amount of dyestuffs and chemicals to be used in the dyeing process (shaved weight), and has been so used throughout our sample card, wherever a certain amount of chemicals or dyestuffs is specified for 100 lbs. of leather.

The leather is then placed in a drum and washed for a half hour in running cold water; following this it is drained and neutralized; Borax, Sodium Bicarbonate, Wyandotte Soda or similar mild alkalies are used for the latter process. According to the acidity of the chrome tannage one to two pounds of the above-named alkalies will usually be found sufficient for 100 lbs. of leather. The neutralizing is done in the drum at a temperature of 90°F., and requires 30 minutes' time. An excess of alkali is to be avoided. The leather should be almost neutral to litmus paper or show only a faint acid reaction. After neutralizing, the leather is again washed in lukewarm water and is then ready for bottoming. The bottoming is done with vegetable products and serves the double purpose of filling the chrome leather and giving a suitable basis for the dyestuff to be subsequently applied, especially for Basic Dyes. The products used belong either to the class of tannins, such as Sumac, Gambier, Cutch, Quermos, etc., or to the vegetable dyestuffs, such as Fustic, Quercitrone, Hypernic or Logwood. From one to three pounds of extracts per 100 lbs. is generally sufficient. Too large an amount of vegetable matter is to be avoided as this is liable to change the character of the chrome tannage. The bottoming is done in the drum at from 90° to 100°F., and requires about 30 minutes. After half an hour's running, the vegetable extracts are fixed by the addition of a suitable amount of mineral salts, such as Tartar Emetic, Titanium Potassium Oxalate, Bichromate of Potash or Soda, or similar products; the drum is then run an additional 15 minutes. Two to four ounces of the above named salts are sufficient for 100 lbs. of leather. The leather is then washed in the drum with lukewarm water for from ten to fifteen minutes, when it is ready for the dyeing proper.

Both Basic and Acid Dyes are suitable for the dyeing of this class of leather. The dyeing is done in the drum at a temperature of 125°F., and requires about half an hour. The drum is loaded with the leather to be dyed and with a sufficient amount of warm water to allow an easy floating of the skins. Then it is started and the requisite amount of dissolved dyestuff added in two or three portions through the gudgeon while the drum is in motion. Basic Dyes are dyed without the addition of any acid. Acid Dyes require sometimes the addition of a little Acetic or Sulphuric Acid to develop their full strength. Four ounces of acetic or two ounces of sulphuric acid for 100 lbs. of leather are generally sufficient to insure good exhaustion and full development of a shade. Where acid is used, it is given at the end of the dyeing operation so as to allow the color to be taken up uniformly before being fixed.

After the dyeing process the skins are washed in the drum for from 5 to 10 minutes in warm water and then fat-liquored. The fat-liquoring is also done in the drum at a temperature of 125°F., and requires from a half to three quarters of an hour. Acid fat-liquors (sulphonated oils) are mostly in use either alone or in combination with egg yolk, moellon-degras or similar oils. The quantity to be used depends entirely on the grades and kind of goods to be produced; and on the concentration of the fat-liquor used. After the fat-liquoring the skins are rinsed, horsed up, set out and then dried and finished in the usual way.

Blacks on Chrome Leather are usually dyed on a logwood bottom. The leather is first bottomed in the drum at 125°F., with from one to one and a half pounds of logwood extract or crystals and with a small amount of Soda Ash (about 2 ozs.) for 100 lbs. of leather. After half an hour's running, 4 ozs. of copperas or equivalent amounts of other suitable strikers are added and the running continued for 15 minutes. The leather is then dyed either in the same or in a new bath (the temperature of which is 125°F.) for one-half hour with the necessary amount of National Nigrosine or National Erie Black; then rinsed, fat-liquored and finished in the usual way.

NATIONAL
U.S.A.
DYES

13

20

14

21

15

22

16

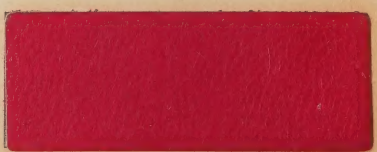
23

17

24

18

25

19

26

Basic Dyes

13.—5 ozs. National Methylene Blue 2 B

14.—5 ozs. National Victoria Green WB Cryst.

15.—National Basic Table Black, brushed, 5 ozs. per 3 gallons

Acid Dyes

16.—5 ozs. National Wool Yellow Extra Conc.

17.—5 ozs. National Azo Yellow A 5 W

18.—3¾ ozs. National Metanil Yellow 1955

19.—5 ozs. National Croceine Orange Y Conc.

20.—5 ozs. National Wool Orange A Conc.

21.—5 ozs. National Resorcine Brown R

22.—5 ozs. National Resorcine Brown RN

23.—10 ozs. National Lake Scarlet R

24.—7½ ozs. National Croceine Scarlet MOO

25.—5 ozs. National Azo Rubine Extra

26.—5 ozs. National Fast Red S Conc.

Quantities calculated for 1 Doz. Sumac-Tanned Skivers measuring 120 Square Feet

Acid Dyes

27.—10 ozs. National Azo Bordeaux
28.—3¾ ozs. National Wool Violet 4 BN
29.—5 ozs. National Induline NT
30.—1¾ ozs. National Cotton Blue B
31.—5 ozs. National Acid Green L
32.—5 ozs. National Buffalo Black 3 G
33.—5 ozs. National Buffalo Black NBR
34.—National Nigrosine 128, brushed, 5 ozs. per 3 gallons
35.—National Nigrosine 27722, brushed, 5 ozs. per 3 gallons

Acid Dyes: Quantities calculated for 1 Dozen Sumac-Tanned Skivers measuring 120 Square Feet

---

Dyes used to produce Fashionable Shades on CHROME-TANNED CALFSKINS

36.—Arizona
BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch
2¼ ozs. Titanium Potassium Oxalate
DYE: 14¼ ozs. National Chrysoidine Y Extra
¼ oz. National Victoria Green WB Crystals

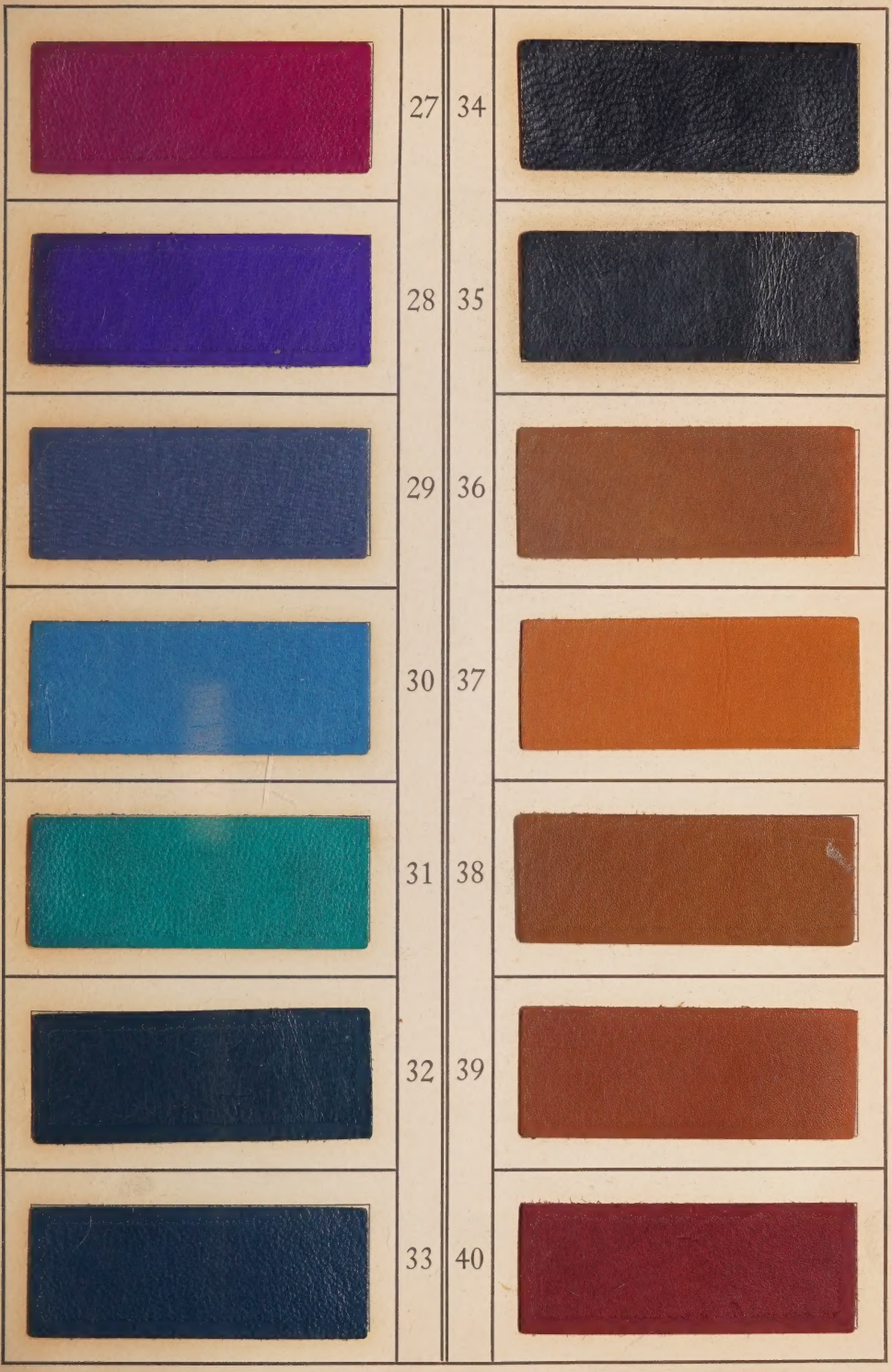
37.—Gold Brown
BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch
2¼ ozs. Titanium Potassium Oxalate
DYE: 13½ ozs. National Chrysoidine Y Extra
¾ oz. National Auramine O
2¼ ozs. Potassium Bichromate

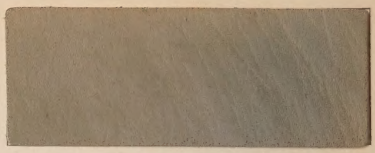
38.—Moccasin
BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch
2¼ ozs. Titanium Potassium Oxalate
DYE: 14¼ ozs. National Phosphine GN
7⅛ ozs. National Bismarck Brown 53
2¼ ozs. National New Blue DA Conc.

39.—Chippendale
BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch
2¼ ozs. Titanium Potassium Oxalate
DYE: 21 ozs. National Bismarck Brown 53
½ oz. National Victoria Green WB Crystals

40.—Morocco
BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch
2¼ ozs. Titanium Potassium Oxalate
DYE: 9 ozs. National Safranine A
14¼ ozs. National Bismarck Brown 53
9/16 oz. National Methyl Violet 2B Conc. Cryst.

Quantities calculated for 100 lbs. Chrome-Tanned Calfskins, Shaved Weight.


27
28
29
30
31
32
33
34
35
36
37
38
39
40

41

48

42

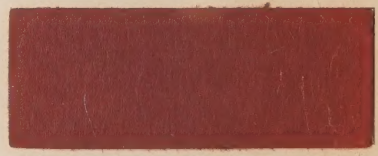
49

43

50

44

51

45

52

46

53

47

54

Dyes used to produce Fashionable Shades on Chrome-Tanned Calfskins

41—Gold Brown

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch

2¼ ozs. Titanium Potassium Oxalate

DYE: 12 ozs. National Resorcine Brown R
9¾ ozs. National Wool Orange A Conc.
1½ ozs. National Induline NT
1½ ozs. National Wool Scarlet BR

4 ozs. Sulphuric Acid

42.—Moccasin

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch

2¼ ozs. Titanium Potassium Oxalate

DYE: 18 ozs. National Resorcine Brown R
18 ozs. National Azo Yellow A 5 W
3¾ ozs. National Induline NT
6 ozs. National Fast Red S Conc.

4 ozs. Sulphuric Acid

43.—Cauldron

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch

2¼ ozs. Potassium Titanium Oxalate

DYE: 12 ozs. National Resorcine Brown R
12 ozs. National Fast Red S Conc.
2¼ ozs. National Induline NT

3 ozs. Sulphuric Acid

44.—Chestnut

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch

2¼ ozs. Titanium Potassium Oxalate

DYE: 12¾ ozs. National Resorcine Brown RN
12 ozs. National Azo Bordeaux
3¾ ozs. National Induline NT

4 ozs. Sulphuric Acid

45.—Morocco

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Hypernic Paste

1½ ozs. Potassium Bichromate

DYE: 12 ozs. National Resorcine Brown RN
16½ ozs. National Fast Red S Conc.
3¾ ozs. National Induline NT

2 ozs. Sulphuric Acid

46.—Jonquil

BOTTOM: 3 lbs. Sumac Extract Paste

3 ozs. Tartar Emetic

DYE IN FAT-LIQUOR:

7½ ozs. National Metanil Yellow 1955
3 ozs. National Resorcine Brown R

2 ozs. Sulphuric Acid

47.—Aluminum

BOTTOM: 3 lbs. Sumac Extract Paste
1½ ozs. Logwood Crystals

1½ ozs. Copperas

DYE IN FAT-LIQUOR:

2¼ ozs. National Resorcine Brown R
⅝ ozs. National Metanil Yellow 1955

2 ozs. Potassium Titanium Oxalate

48.—Smoke

BOTTOM: 3 lbs. Sumac Extract Paste
1½ ozs. Logwood Crystals

1½ ozs. Copperas

DYE IN FAT-LIQUOR:

1½ ozs. National Nigrosine 27722
1 oz. National Metanil Yellow 1955

49.—Black

BOTTOM: 1 lb. Logwood Crystals
2 ozs. Bicarbonate of Soda

2 ozs. Copperas

DYE: 1 lb. National Erie Black GXOO

50.—Black

BOTTOM: 1 lb. Logwood Crystals
2 ozs. Bicarbonate of Soda

2 ozs. Copperas

DYE: 1 lb. National Nigrosine 27722

51.—Black

BOTTOM: 1 lb. Logwood Crystals
2 ozs. Bicarbonate of Soda

2 ozs. Copperas

DYE: 1 lb. National Nigrosine 128

52.—Chippendale

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Cutch

1½ ozs. Titanium Potassium Oxalate

8 ozs. National Resorcine Brown R

2 ozs. Sulphuric Acid

TOP WITH: 11 ozs. National Bismarck Brown 53
¼ ozs. National Victoria Green WB Cryst.
1 oz. National Safranine A

53.—Gold Brown

BOTTOM: 2 lbs. Sumac Extract Paste
1 lb. Cutch

1½ ozs. Titanium Potassium Oxalate

8 ozs. National Resorcine Brown R

2 ozs. Sulphuric Acid

TOP WITH: 9 ozs. National Chrysoidine Y Extra
½ oz. National Auramine O

1½ ozs. Potassium Bichromate

54.—Morocco

BOTTOM: 3 lbs. Sumac Extract Paste
1½ lbs. Hypernic Paste

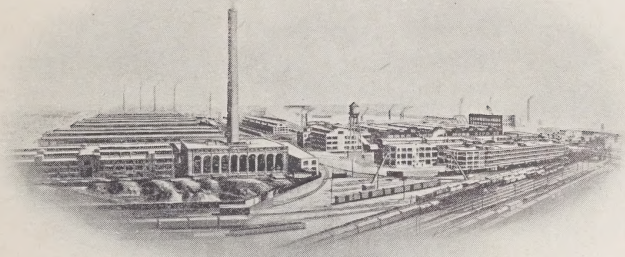
1½ ozs. Potassium Bichromate

7½ ozs. National Fast Red S Conc.
2½ ozs. National Buffalo Black NBR

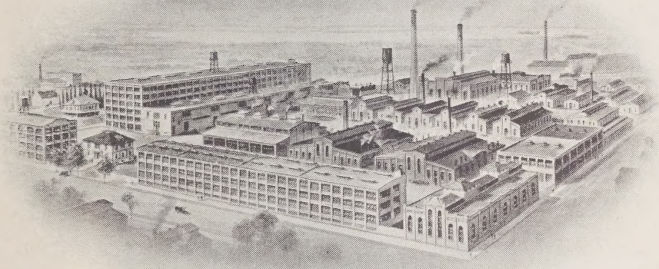
2 ozs. Sulphuric Acid

TOP WITH: 4½ ozs. National Safranine A
7⅛ ozs. National Bismarck Brown 53
⅝ oz. National Methyl Violet 2 B Conc. Cryst.

Quantities calculated for 100 lbs. Chrome-Tanned Calfskins, Shaved Weight.



BUFFALO



BROOKLYN

MARCUS HOOK

The three plants owned and operated by the
National Aniline & Chemical Co., Inc.

84-B25291

4/84
H1.LX
7125